Claims

1. A method for producing a microtransponder comprising the following steps:

applying an antenna metallization (12; 64) having a first (16; 72) and a second (18; 66) connecting end to a support substrate (10);

applying a connecting metallization (2, 4; 62) to a flexible support foil (6);

a) applying a circuit chip (8; 60) having a first and a second connecting area to said connecting metallization (2, 4; 62) in such a way that at least the first connecting area of the circuit chip is connected to the connecting metallization (2; 62) in an electrically conductive manner;

b) joining the support substrate (10) and the support foil (6) in such a way that the connecting metallization (2; 62) is connected to the first connecting end (16; 72) of the antenna metallization (12; 64) in an electrically conductive manner, and that the second connecting area of the circuit chip (8; 60) is connected to the second connecting end (18; 66) of the antenna metallization (12; 64) in an electrically conductive manner; and

c) joining edge areas (20) of the flexible support foil (6) to neighbouring areas of the support substrate (10) so as to encapsulate at least the circuit chip (8; 60).

2. A method according to claim 1, wherein the edge areas (20) of the flexible support foil (6) are welded to the neighbouring areas of the support substrate (10).

3. A method according to claim 1, wherein the edge areas (20) of the flexible support foil (6) are joined to the neighbouring areas of the support substrate (10) by means of an adhesive.

4. A method according to one of the claims 1 to 3, wherein in step b) a first and a second connecting metallization (2, 4) are applied to the flexible support foil (6), and wherein in step c) the circuit chip (8), which is provided with said first and second connecting areas on a first main surface thereof, is applied to said first and said second connecting metallizations (2, 4) in such a way that the first connecting area is connected to the first connecting metallization (2) in an electrically conductive manner and the second connecting area is connected to the second connecting metallization (4) in an electrically conductive manner, the second connecting area being, in step d), connected via the second connecting metallization (4) to the second connecting end (18) of the antenna metallization (12) in electrically conductive manner.

5. A method according to one of the claims 1 to 3, wherein the circuit chip (60) applied in step c) has the first connecting area on a first main surface thereof and the second connecting area on a second main surface thereof, which is located opposite said first main surface.

6. A method according to claim 4, wherein in step d) the support foil (6) and the support substrate (10) are joined in such a way that the antenna metallization (12) and the circuit chip (8) are arranged on the same main surface of the support substrate (10).

7. A method according to claim 4, wherein the circuit chip (8) is introduced in step d) in an opening (30) in the support-substrate main surface to which the antenna metallization (12) has been applied.

8. A method according to claim 6 or 7, wherein an insulator structure (14) is provided so as to insulate the second connecting metallization (4) from the antenna metallization (12) with the exception of the location at the second connecting end (18) of the antenna metallization (12).

9. A method according to claim 4, wherein the support foil (6) and the support substrate (10) are joined in step d) in such a way that the antenna metallization (12) and the circuit chip (8) are arranged on opposed main surfaces of the support substrate (10), the first and second connecting metallizations (2, 4) being connected by means of through-contacts (40, 42) to the first and second connecting ends (16, 18) of the antenna metallization (12).

10. A method according to claim 4, wherein in step d) the circuit chip (8) is introduced in an opening (50) provided in the main surface of the support substrate (10) which is located opposite the main surface having the antenna metallization (12) applied thereto, the first and second connecting metallizations (2, 4) being connected

by means of through-contacts (40, 42) to the first and second connecting ends (16, 18) of the antenna metallization (12).

11. A method according to claim 5, wherein the support foil (6) and the support substrate (10) are joined in step d) in such a way that the antenna metallization (64) and the circuit chip (60) are arranged on the same main surface of the support substrate (10).

12. A method according to claim 5, wherein in step d) the circuit chip (60) is introduced into an opening (80; 90) provided in the main surface of the support substrate (10) which is located opposite the main surface having the antenna metallization (64) applied thereto, the connecting metallization (62) being connected via a through-contact (84) to the first connecting end (72) of the antenna metallization (64).

13. A method according to one of the claims 1 to 12, wherein step e) is executed in a vacuum or making use of a protective gas.